

C L A I M S

1. A network including at least a router
2 device including
3 a plurality of network interfaces for
4 connection to an outside, and
5 routing processing means for performing
6 routing processing for a packet received through said
7 network interface on the basis of route information
8 stored in advance, characterized in that
9 said router device comprises virtual
10 interfaces which manage a change in state of a link for
11 connection to the outside in accordance with an up state
12 in which connection continues for not less than a
13 predetermined time, a down state in which disconnection
14 continues for not less than a predetermined time, and a
15 hit state in which the connection and the disconnection
16 repeat.

2. A network according to claim 1,
2 characterized in that said virtual interfaces are
3 arranged between said network interfaces and said
4 routing processing means so as to respectively
5 correspond to said plurality of network interfaces, and
6 conceal a state of said network interfaces from said
7 routing processing means.

3. A network according to claim 1,
2 characterized in that said virtual interfaces suppress
3 updating of the route information when the link is in

4 the hit state.

4. A network according to claim 1,
2 characterized in that said virtual interfaces suppress
3 notification of a change in state of the link to another
4 router device when the link is in the hit state.

5. A router device comprising
2 a plurality of network interfaces for
3 connection to an outside, and
4 routing processing means for performing
5 routing processing for a packet received through said
6 network interface on the basis of route information
7 stored in advance, characterized by comprising
8 virtual interfaces which manage a change in
9 state of a link for connection to the outside in
10 accordance with an up state in which connection
11 continues for not less than a predetermined time, a down
12 state in which disconnection continues for not less than
13 a predetermined time, and a hit state in which the
14 connection and the disconnection repeat.

6. A router device according to claim 5,
2 characterized in that said virtual interfaces are
3 arranged between said network interfaces and said
4 routing processing means so as to respectively
5 correspond to said plurality of network interfaces, and
6 conceal a state of said network interfaces from said
7 routing processing means.

7. A router device according to claim 5,

2 characterized in that said virtual interfaces suppress
3 updating of the route information when the link is in
4 the hit state.

8. A router device according to claim 5,
2 characterized in that said virtual interfaces suppress
3 notification of a change in state of the link to another
4 device when the link is in the hit state.

9. A route updating suppression method for a
2 network including at least a router device including a
3 plurality of network interfaces for connection to an
4 outside, and routing processing means for performing
5 routing processing for a packet received through said
6 network interface on the basis of route information
7 stored in advance, characterized by comprising:

8 the step of recognizing any one of an up state
9 indicating a state in which connection to the outside
10 continues for not less than a predetermined time, a down
11 state in which disconnection continues for not less than
12 a predetermined time, and a hit state in which the
13 connection and the disconnection repeat, on the side of
14 virtual interfaces arranged between the network
15 interfaces and the routing processing means so as to
16 respectively correspond to the plurality of network
17 interfaces; and

18 the step of managing a change in state of a
19 link for connection to the outside in accordance with a
20 recognition result.

10. A route updating suppression method
2 according to claim 9, characterized by further
3 comprising the step of causing the virtual interfaces to
4 conceal a state of the network interfaces from the
5 routing processing means.

11. A route updating suppression method
2 according to claim 9, characterized by further
3 comprising the step of causing the virtual interfaces to
4 suppress updating of the route information when the link
5 is in the hit state.

12. A route updating suppression method
2 according to claim 9, characterized by further
3 comprising the step of causing the virtual interfaces to
4 suppress notification of a change in state of the link
5 to another router device when the link is in the hit
6 state.

13. A program for a route updating suppression
2 method for a network including at least a router device
3 including a plurality of network interfaces for
4 connection to an outside, and routing processing means
5 for performing routing processing for a packet received
6 through said network interface on the basis of route
7 information stored in advance, the program being used to
8 execute:

9 the step of recognizing any one of an up state
10 indicating a state in which connection to the outside
11 continues for not less than a predetermined time, a down

12 state in which disconnection continues for not less than
13 a predetermined time, and a hit state in which the
14 connection and the disconnection repeat, on the side of
15 virtual interfaces arranged between the network
16 interfaces and the routing processing means so as to
17 respectively correspond to the plurality of network
18 interfaces; and

19 the step of managing a change in state of a
20 link for connection to the outside in accordance with a
21 recognition result.